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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,939	07/08/2004	Pascal Guerrero	RFR0041	1483

7590 02/17/2006

Valeo Inc
Intellectual Property Department
4100 North Atlantic Boulevard
Auburn Hills, MI 48326

EXAMINER	
TRIEU, THAI BA	

ART UNIT	PAPER NUMBER
3748	

DATE MAILED: 02/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/500,939	GUERRERO, PASCAL	
	Examiner	Art Unit	
	Thai-Ba Trieu	3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 December 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This Office action is in response to the Amendment filed on December 20, 2005. Applicant's cooperation in amending the claims to overcome the claim objections relating to informalities as well as indefinite claim language is appreciated. Claims 1-11 were amended, and claims 12-18 were added.

Claim Suggestions

Applicant is suggested to revise and rewrite claims 14-18 by following:

-- 14. An automotive vehicle having a management device as [[in claim 7]] **for managing the temperature of the gases entering a heat engine (58), comprising:**

a main loop (52) equipped with a main pump (60) for circulating a heat transfer fluid between the heat engine (58);

a main radiator (64) for cooling at high temperature;

a secondary low temperature radiator (78);

a liquid/gas radiator (2, 12, 22, 34, 44) ; and

an intercooling means (76, 86, 106) for circulating the heat transfer fluid in the liquid/gas heat exchanger to heat and/or cool the gases (84) entering the engine (58). --

-- 15. An automotive vehicle having a management device as in claim [[8]] 14 further comprising:

a single stage heat exchanger (2, 12) and a three way valve (76) for recirculating either the hot heat transfer fluid directly leaving the internal combustion engine (58) in the heat exchanger, or a cold heat transfer fluid leaving the low temperature radiator (78), or an adequate mixture of both fluids.--

Applicant should follow the format set forth above to amend Claims 16-18.

Claim Objections

Claims 8 -11 and 15-18 are objected to because of the following informalities:

- In claim 8, lines 2-3, the recitation ***"a single single stage heat exchanger"*** should be revised for addressing the redundancy and consistency of the whole specification and claims.

Additionally, applicant should compare the recitation in claim 8, lines 2-3 above with the one in claim 9, line 2.

This objection is also applied for claims 15-16.

- Applicant should elect either ***"a single two-stage heat exchanger"*** in claims 10 and 17, lines 2-3, or "a two stage heat exchanger" in claims 11 and 18, lines 2-3, to disclose the element (22, 34, 44) in order to maintain the consistency of whole specification and claims.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

1. Claim 4 and its dependent claims 5-6, and claims15-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically,

- In claim 4, lines 4 and 6, the recitation of ***"can circulate"*** renders the claim indefinite, since it is not clear that under which condition of the high/low temperature stage a high/low temperature liquid can circulate; and under which condition of the high/low temperature stage a high/low temperature liquid cannot circulate. Applicant is required to identify each condition.

- In claim 15, the recitation of ***"An automotive vehicle having a management device in claim 8"*** renders the claims indefinite, since it is not clear that claim 15 has all the limitations in claim 8 only or all the limitations in claim 7 combining with claim 8. Applicant is required to clarify or revise the claim as being suggested in the claim suggestions set forth above.

- Applicant is required to revise Claims 16-18 because of the same reason with claim 15.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-9 and 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Amaral et al. (Pub. Number EP 1 170 498 A1).

Regarding claims 1-6 and 12-13, Amaral discloses a method for controlling the temperature of the gases entering an internal combustion engine (10) of an automotive vehicle, characterized:

in that the gases are circulated in a liquid/gas heat exchanger (20, 22, 30) prior to entering the internal combustion heat engine (10) (See Figure 1), and

in that a high temperature liquid and/or a low temperature liquid (via 26, 24) is circulated in the liquid/gas heat exchanger in order to heat and/or cool the gases (via 12) as required (See Figures 1-5, Paragraphs [0015]-[0023]);

wherein the heat exchanger is a single-stage heat exchanger (20, 22, 30) and in that valve means (28, 28A, 28B, 28C, 38) are provided to circulate either a low temperature liquid, or a high temperature liquid, or a mixture of both liquids, the heat exchanger (22, 30) (See Figures 2-5, Paragraphs [0027]);

a section (14) through which the engine intake air (via 22) passes and a section (34) through which a recirculated fraction of the exhaust gases passes (See Figures 4-5);

a high temperature stage (34) in which a high temperature liquid can circulate, and a low temperature stage (22) in which the low temperature liquid can circulate, interconnecting means (38) for controlling the circulation of the high temperature and low temperature liquids as required (See Figures 4-5, Paragraph [0039]);

wherein the high temperature stage (34) comprises a section through which the engine intake air (12) passes and a section (Not Numbered) through which a recirculated fraction of the exhaust gases passes; and wherein the low temperature stage (22) also comprises a section through which a recirculated fraction of the exhaust gases passes (See Figures 4-5, Paragraphs [0031]-[0039]); and

wherein the internal combustion engine is part of an automotive vehicle (See Title, and Paragraph [0001].

Regarding claims 7-9 and 14, Amaral discloses a device for managing the temperature of the gases entering a heat engine (10) of an automotive vehicle, comprising a main loop equipped with a main pump (32) for circulating a heat transfer fluid between the heat engine (10) and a main radiator for cooling at high temperature (22, 26), characterized in that it comprises a secondary loop including a secondary low

temperature radiator (via 30 and 24 to 22), the device further comprising a liquid/gas radiator (22, 30, 34, or 40), and interconnecting means (28, 38) for circulating the heat transfer fluid in the liquid/gas heat exchanger as required to heat and/or cool the gases (via 12) entering the engine (10);

a single single-stage heat exchanger (22) and a three way valve (28) for circulating either the hot heat transfer fluid directly leaving the internal combustion engine (10), or a cold heat transfer fluid leaving the low temperature radiator (30), or an adequate mixture of both fluids (See Figures 1-3, and Paragraph [0022]);

a single stage heat exchanger and a branch on the high temperature fluid circuit equipped with an additional circulating pump (32), a valve (28) for circulating either hot heat transfer fluid directly leaving the heat engine, or the cold heat transfer fluid in low temperature radiator (30), or a mixture of both fluids (See Figures 1-3, Paragraph [0013]).

Claims 1, 2, 4, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Lehmann et al. (Pub. Number DE 199 24 677 A1).

Lehmann discloses a method for controlling the temperature of the gases entering an internal combustion engine (2) of an automotive vehicle, characterized:

in that the gases are circulated in a liquid/gas heat exchanger (10, 26, 27) prior to entering the internal combustion heat engine (2) (See Figures 1-2), and

in that a high temperature liquid and/or a low temperature liquid (25) is circulated in the liquid/gas heat exchanger in order to heat and/or cool the gases (via 12) as required (See Figures 2-5, Paragraphs [0015]-[0023]);

wherein the heat exchanger is a single-stage heat exchanger (20, 22, 30) and in that valve means (35) are provided to circulate either a low temperature liquid, or a high temperature liquid, or a mixture of both liquids, the heat exchanger (10, 26, 27) (See Figures 1-2, Column 2, lines 36-43 and Column 4, lines 56-68);

a high temperature stage (19, 26, 37, 40) in which a high temperature liquid can circulate, and a low temperature stage (22, 45, 27, 44, 39) in which the low temperature liquid can circulate, interconnecting means (17,18, 32, 33) for controlling the circulation of the high temperature and low temperature liquids as required (See Figures 1-2, Column 2, lines 36-43 and Column 4, lines 56-68); and

a device for managing the temperature of the gases entering a heat engine (2) of an automotive vehicle, comprising a main loop equipped with a main pump (35) for circulating a heat transfer fluid between the heat engine (2) and a main radiator (via 26) for cooling at high temperature, characterized in that it comprises a secondary loop including a secondary low temperature radiator (26), the device further comprising a liquid/gas radiator (26, 27), and interconnecting means (17, 18, 32, 33) for circulating the heat transfer fluid in the liquid/gas heat exchanger as required to heat and/or cool the gases (via 9, 11) entering the engine (2) (See Figures 1-2, Column 2, lines 36-43 and Column 4, lines 56-68).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Amaral et al. (Pub. Number EP 1 170 498 A1), in view of Harayama (Pub. Number JP 07-332177 A).

Amaral discloses the invention as recited above, and further discloses a heat exchanger (22, 34), a three way valve (28, 38) for circulating the hot heat transfer fluid leaving the internal combustion engine (form engine (not shown) via 28B), and a cool heat transfer fluid in the low temperature radiator (30) in the low stage of the heat transfer; however, Amaral fails to disclose a heat exchanger being a single two stage heat exchanger.

Harayama teaches that it is conventional in the art of an air cooler structure, to utilize a single two-stage heat exchanger (4 including cooler 4 –low temperature heat exchanger--, and heater 6 – high temperature heat exchanger) (See Figure 1).

It would has been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized a single two-stage heat exchanger, as taught by Harayama, to offer an alternative structural design of a compact two stage heat exchanger for Amaral device.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Amaral et al. (Pub. Number EP 1 170 498 A1), in view of Matsumoto (Patent Number JP 10-196473 A).

Amaral discloses the invention as recited above, and further discloses a heat exchanger (22, 34), a valve (28, 38) for circulating the hot heat transfer fluid leaving the internal combustion engine (form engine (not shown) via 28B), a cool heat transfer fluid in the low temperature radiator (30) in the low stage of the heat transfer, and an additional loop equipped with a circulating pump (32) for circulating the cold heat transfer fluid cooled in the low temperature radiator (30) in the low stage of the heat exchanger; however, Amaral fails to disclose a two-way valve.

Matsumoto teaches that it is conventional in the art of an air cooler, to utilize a two-way valve (115, 117) (See Figure 1B).

It would has been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized a two-way valve, as taught by Matsumoto, to offer an alternative structural design of a valve for Amaral device.

Response to Arguments

Applicant's arguments filed on December 20, 2005 have been fully considered but they are not persuasive. Accordingly, claims 1-18 are pending.

Regarding to the applicant's arguments set forth on pages 6-7, applicant sate that neither the reference to Amaral (Patent Number EP 1 170 498 A1), nor the reference to Lehmann (Patent Number DE199 24 677 A1) discloses **a heat exchanger**

as in the present invention as shown in the single heat exchangers, for example in figures 1-7 and page 2 of the specification.

First of all, the examiner respectfully disagrees with the applicant, because as the applicant has claimed **a heat exchanger,** which can be a heat exchanger with any structural details such as a multiple heat exchanger, a single stage heat exchanger, a double stage heat exchanger, a heat exchanger with one kind of liquid and multiple passages, or a heat exchanger with multiple kinds of liquid or gas and multiple passages etc... Therefore, a heat exchanger as disclosed in Figures 1-5 of Amaral reads on the limitations as being claimed.

Additionally, the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a heat exchanger as described on page 2 of the specification) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See In re Van Geuns, 988 F. 2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Secondly, Lehmann discloses a complexity of the situation of heat exchangers (10, 26, 27); however, the heat exchanger (10) being positioned downstream of the compressor (3) is a single heat exchanger, which is readable on the limitations as having been claimed in the instant application.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Inoue et al. (Patent Number 6,935,417 B1) disclose a solution heat exchanger for absorption refrigerating machine.

- Bedkowski (Patent number 5,878,731) discloses a method and an apparatus for cleaning internal combustion engine crankcase blow-by-gas and an internal combustion engine including aid apparatus.

- Wetzel (Pub. Number DE 43 11 036 A1) discloses a device for cooling of combustion air for diesel engines.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai-Ba Trieu whose telephone number is (571) 272-4867. The examiner can normally be reached on Monday - Thursday (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTB
February 15, 2006

Thai-Ba Trieu
Primary Examiner
Art Unit 3748